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| 10/017,694 | 12/14/2001 | Wei-Ge Chen | 3382-61340 | 5690 |

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| EXAMINER | |
|---|---|
| STORM, DONALD L | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2654 | |

DATE MAILED: 08/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/017,694 | CHEN ET AL. | |
| | Examiner | Art Unit | |
| | Donald L. Storm | 2654 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *1/26/05, 6/29/05, 7/20/05*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 13-25* is/are rejected.

7)☒ Claim(s) *11 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Election/Restriction*

2. Applicant's confirmation of election of claims 1-25 and cancellation of claims 26-100 in the reply filed on June 29, 2005 is acknowledged.

### *Claim Informalities*

3. Claims 11 and 12 are objected to as being (directly or indirectly) dependent upon a rejected base claim. See MPEP § 608.01(n)V.

The claim(s) would be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of those dependent claims, particularly with comparison to a quality target, comparison to a minimum-bits target, and comparison to a maximum bits target.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Lee***

Claims 1-3 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee [US Patent 6,895,050], which [at column 6, lines 43-47] incorporates by reference Chiang et al. [US Patent 6,160,846] (Chiang '846), already of record.

5. Regarding claim 1, Lee [at abstract] describes a computer embodiment in which quality of information is controlled at constant bitrate and output at variable quality. Lee describes the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

a computer-readable medium encoded with computer-executable instructions [at column 9, lines 29-33, as a software application loaded from a storage device];

a block of information [at column 4, lines 32-33 and column 6, line 3, as a set of block of coefficients as a frame];

quantizing it to meet constant (or relatively constant) bitrate requirements [at column 4, lines 44-61, as the coefficients of the block are quantized and controlled to match a given bit rate];

entropy coding it [at column 5, lines 29-44, as then encode the coefficients by Huffman (entropy) coding];

wherein the encoder adjusts quantization step size of the quantizing in view of a comparison of a target quality parameter for it to a quality measurement for it, thereby reducing number of changes in quality and smoothing transitions between the changes in quality [at column 5, line 64-column 6, line 16, as control the bits for a frame by selecting a quantizer scale using the result from a threshold comparison between an average quality measure and a current measure for a current frame to produce a uniform quality over the picture];

the quality measure for it as quantized and reconstructed [at column 6, line 48-column 7, line 2, as the quantized coefficients are decoded to generate and store frames of the image so that they are used as reference frames].

6. Regarding claims 2, 3, and 7, Chiang '846 describes the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed January 26, 2005).

***Jacobs***

7. Claims 14, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Jacobs et al. [US Patent 5,414,796] using the same rationale as in the prior Office action (mailed January 26, 2005). *{Exmr: Quality is inherently acceptable.}*

***Tsutsui '310***

8. Claims 10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsutsui [US Patent 5,825,310] (Tsutsui '310).

9. Regarding claim 10, Tsutsui '310 [at Figs. 1-3, 6-7, and column 1] describes a spectral encoder embodiment of a computer-implemented method by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients [at column 1, line 44-column 2, line 15, as use a DFT or DCT transform on M time sample data of an input audio signal and obtain real number data of resulting spectral signal components split into frames];

compressing the block of frequency coefficients including: [at column 1, lines 10-20, as high-efficiency encoding the resulting block of frequency domain spectrum signals];

quantizing the block of frequency coefficients [at column 1, lines 60-63, as quantizing the data obtained with DFT or DCT];

comparing a quality measure to a quality target [at column 9, lines 51-63, as setting by a relation between normalization coefficients to maintain signal quality and minimum audibility level to maintain signal quality];

a bit count measure for the block [at column 12, lines 34-44, as number T(i) of bits summed over encoding units i & column 7, lines 8-14, as the encoding units every time-block];

a bits target [at column 12, lines 25-36, as number S(i) of bits (that remain available) for encoding unit i after the bits that have actually been used are subtracted from the total number of useable bits];

comparing it to a minimum-bits target and to a maximum-bits target [at column 13, lines 16-25, as it is checked whether T(i-1) is larger than S(i-1)+K1 and T(i-1) is smaller that S(i-1)+K2].

10. Regarding claim 13, Tsutsui '310 also describes:

the quality target, the minimum-bits target, and maximum-bits target are for the block [at column 7, lines 8-14, as normalization and quantization every time block].

## *Claim Rejections - 35 USC § 103*

***Lee and Azadegan***

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee [US Patent 6,895,050], which [at column 6, lines 43-47] incorporates by reference Chiang et al. [US Patent 6,160,846] (Chiang '846), already of record, in view of Azadegan et al. [US Patent 5,623,424], already of record.

12. Regarding claim 4, Lee describes the included claim elements by dependency as indicated elsewhere in this Office action. Lee does not explicitly describe selecting a block size from a plurality of block sizes and a control parameter computed with normalizing the block size. Lee,

incorporating Chiang '846 by reference, and Azadegan describe and make obvious the additional claim elements of this dependent claim using the same rationale as in the prior Office action (mailed January 26, 2005).

***Lee and Jacobs***

13. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee [US Patent 6,895,050], which [at column 6, lines 43-47] incorporates by reference Chiang et al. [US Patent 6,160,846] (Chiang '846), already of record, in view of Jacobs et al. [US Patent 5,414,796], already of record.

14. Regarding claims 5-6, Lee describes the included claim elements by dependency as indicated elsewhere in this Office action. Lee does not explicitly describe a quality control quantization loop and bit-count control quantization loop de-linked. Lee, incorporating Chiang '846 by reference, and Jacobs describe and make obvious the additional claim elements of these dependent claims using the same rationale as in the prior Office action (mailed January 26, 2005).

***Lee and Mohsenian***

15. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee [US Patent 6,895,050], which [at column 6, lines 43-47] incorporates by reference Chiang et al. [US Patent 6,160,846] (Chiang '846), already of record, in view of Mohsenian [US Patent 6,278,735], already of record.

16. Regarding claim 8, Lee describes the included claim elements by dependency as indicated elsewhere in this Office action. Lee does not explicitly describe lowpass filtering a value of a control parameter as part of a series of values. Lee, incorporating Chiang '846 by reference, and

Azadegan describe and make obvious the additional claim elements of this dependent claim using the same rationale as in the prior Office action (mailed January 26, 2005).

17. Regarding claim 9, Lee describes the included claim elements by dependency as indicated elsewhere in this Office action. Lee does not explicitly describe a value of a control parameter as part of correcting a bias in a model relation of quality and bitrate to step size. Lee, incorporating Chiang '846 by reference, and Azadegan describe and make obvious the additional claim elements of this dependent claim using the same rationale as in the prior Office action (mailed January 26, 2005).

***Tsutsui '310 and Jacobs***

18. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsui [US Patent 5,825,310] (Tsutsui '310) in view of Jacobs et al. [US Patent 5,414,796], already of record.

19. Regarding claim 14, Tsutsui '310 [at Fig. 6 and column 7, lines 8-26] describes a computer-implemented method of controlling quality and bitrate by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

determining one (or more) target quality parameter(s), a first one of them indicating an acceptable quality and basing quantization of information on the first target quality parameter at least in part [at column 9, lines 51-63, as setting by a relation to maintain sufficient signal quality and setting a value of quantization precision from the relation];

bitrate parameters [at column 12, lines 34-44, as number T(i) of bits summed over encoding units i & column 7, lines 8-14, as the encoding units every time-block & at column 12, lines 25-36, as number S(i) of bits (that remain available) for encoding unit i after the bits that have actually been used are subtracted from the total number of useable bits];

determining a plurality of them, a first one of them indicating a minimum acceptable number of bits produced, and a second of them indicating a maximum acceptable number of bits produced and basing quantization of information on the first target bitrate parameter and the second target bitrate parameter at least in part [at column 13, lines 16-25, as it is checked whether T(i-1) is larger than S(i-1)+K1 and T(i-1) is smaller that S(i-1)+K2 in order to raise or lower the quantization step];

compressing the information [at column 9, lines 16-25, as subsequently encoding the components];

the quality, the information for quantization, and the information for compressing are audio [at column 1, line 44-column 2, line 15, as use sample data of an input audio signal and obtain real number data of resulting spectral signal components split into frames].

Tsutsui '310 [at Figs. 1-5 and columns 1-2] illustrates the structure of an encoder for implementing the method by block diagrams of circuit blocks, but does not explicitly describe circuit details. In particular , Tsutsui '310 does not explicitly describe a computer-readable medium encoded with computer-readable instructions to perform the method.

Jacobs [at column 46, lines 33-41] also describes a computer embodiment in which audio information is compressed at a determined quantization and quality. Like Tsutsui '310, Jacobs embodiment performs all the steps of the claimed method using the same rationale as indicated elsewhere in this Office action, with reference to the prior Office action (mailed January 26, 2005). In addition, Jacobs describes:

a computer-readable medium encoded with computer-executable instructions for causing a computer programmed thereby to perform a method [at column 46, lines 33-41, as digital signal processor or ASIC under program control].

Tsutsui '310's block diagrams represent any suitable circuits. Tsutsui '310 has not disclosed a preferred approach to those circuits according to a design criterion or solution to any

stated problem, but merely any circuits from mature technologies. As indicated, Jacobs shows that a computer-readable medium encoded with computer-readable instructions to perform the method of audio encoding with quality and bitrate controls was known to artisans at the time of invention.. It would have been obvious to one of ordinary skill in the computer and electronic arts at the time that the invention was made that various general purpose machines could be used with Jacobs' computer-readable medium encoded with computer-executable instructions in accordance with Tsutsui '310's teachings. Workers in the art are able to trade off costs and benefits to determine which configuration is best for a particular application using Tsutsui '310's teachings and the ordinary knowledge of artisans. For example, programmed, general purpose computers and their software cost, such as Jacobs, would generally have advantages over hardware circuits of lower development cost and easier changes in software.

20. Regarding claim 15, Tsutsui '310 also describes:

performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients, wherein the audio information is the block of frequency coefficients [at column 1, line 44-column 2, line 15, as use a DFT or DCT transform on M time sample data of an input audio signal and obtain real number data of resulting spectral signal components split into frames].

21. Regarding claim 16, Tsutsui '310 also describes:

the quality target, the minimum-bits target, and maximum-bits target are for the block [at column 7, lines 8-14, as normalization and quantization every time block].

***Jacobs and Chiang '846***

22. Claims 18, and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang et al. [US Patent 6,160,846] (Chiang '846) in view of Jacobs et al. [US Patent 5,414,796], both already of record.

An artisan in the field of quantization for compression will understand that any data object, such as an image of Chiang '846, a segment of speech of Jacobs, a page of text, or a video sequence, can be broken into a series of steps, including (1) decomposing the object into a collection of tokens; (2) representing the tokens by binary strings that have minimal length in some sense; and (3) encoding to a further representation of the binary strings for transmission or storage.

23. Regarding claim 18, Jacobs describes the included claim elements as indicated elsewhere in this Office action. Jacobs also describes:

quantizing the audio information [see Fig. 4, items 88, 90, 92, and their descriptions, especially at column 11, lines 16-21, of an option for quantized LSPs];

encoding the quantized audio information [at column 2, lines 39-42, as perform variable rate vocoding to accomplish compression to reduce the amount of data to represent speech inherently containing period of silence];

computing the bit-count measure [at column 15, lines 25-43, as select and maybe modify the rate based on the previous frame];

computing it based upon the encoded audio information [at column 25, lines 7-42, as the quantized, encoded LSP frequency values are previous frame values for use during the current frame];

comparing a quality measure for it to a quality target [see Fig. 12, items 442, 444, and their descriptions, especially at column 24, lines 18-23, of comparing a resulting value that results from

current frame LSPs and that is used to ensure quality to a threshold that provides an indication to ensure quality];

comparing it to a minimum-bits target [at column 15, lines 48-49, as "if" the rate is less than the lowest rate allowed];

and comparing it to a maximum-bits target [at column 15, lines 45-46, as "if" the rate is greater than the highest rate allowed].

Jacobs [at Fig. 2, item 236 and Fig. 18, item 676] describes that the quantized data must be coded for CDMA telephone transmission as disclosed elsewhere, but Jacobs does not describe the particular details. In particular, Jacobs does not explicitly describe entropy encoding.

At column 12, lines 12-18, Jacobs encourages the use of other representation of the coding for other system applications. As to other applications, as artisan in the field of compression for encoding and transmission, will understand that any data object, such as a segment of speech, an image, a page of text, or a video sequence, can be broken into a series of steps, including (1) decomposing the object into a collection of tokens; (2) representing the tokens by binary strings that have minimal length in some sense; and (3) encoding to a further representation of the binary strings for transmission or storage. A known encoding technique is entropy encoding, as used by Chiang '846 for its benefits.

Like Jacobs, Chiang '846 [at abstract] describes quality of information is controlled at a determined bitrate and compressed at a determined quantization. For transmitting the information, Chiang '846 describes:

entropy encoding quantized information [at column 8, lines 21-37, as encoding a string of quantized coefficients with a type of entropy encoder].

As indicated, Chiang '846 shows that entropy encoding was known to artisans at the time of invention. Since Chiang '846 [at column 8, lines 27-33] also points out that entropy encoding schemes are well known to have the advantage of coding efficiency and reversibility, it would

have been obvious to one of ordinary skill in the art of encoding at the time of invention to include the concepts described by Chiang '846 at least entropy encoding for another application such as Chiang '846's multimedia coding following Jacobs's encouragement, because entropy encoding schemes are well known to have the advantage of coding efficiency and reversibility.

24. Claims 22-25 are rejected using the same rationale as in the prior Office action (mailed January 26, 2005).

***Jacobs and Chiang '497***

25. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobs et al. [US Patent 5,414,796] in view of Chiang et al. [US Patent 6,243,497] (Chiang '497) using the same rationale as in the prior Office action (mailed January 26, 2005).

***Response to Arguments***

26. The prior Office action, mailed January 26, 2005, requires affirmation of election of invention of claims 1-25 for prosecution, objects to the specification and claims, and rejects claims under *35 USC § 102* and *§ 103*. The Applicant's arguments and changes in AMENDMENT, filed June 29, 2005, have been fully considered with the following results.

27. Applicant's confirmation of election of claims 1-25 and cancellation of claims 26-100 in the reply filed on June 29, 2005 is acknowledged.

28. With respect to objection to the specification's reference to related applications, the changes entered by amendment provide a sufficient citation. Accordingly, the objection is removed.

29. With respect to objection to those claims not ending with a period, the changes entered by amendment provide clear descriptions of the claimed subject matter. Accordingly, the objection is removed.

30. With respect to rejection of claims 1-9 under *35 USC § 102* and *§ 103*, citing Chiang '846 alone and in combination, the changes entered by amendment include comparison to a quality measurement for the block as quantized and reconstructed.

The reference Chiang '846 does not explicitly describe that limitation and the current combination of Chiang '846 with other references does not make such a limitation obvious compared to the prior art of record for the whole structure and interaction expressed by the combination of all limitations. Accordingly, the rejections are removed. The Applicant's assertions with respect to Chiang '846 have been considered, but they are moot in view of the new claim element. Please see new grounds of rejection applied to address the new claim element: comparison to a quality measurement for the block as quantized and reconstructed.

31. With respect to rejection of claims 10-13 under *35 USC § 102* and *§ 103*, citing Jacobs alone and in combination, the changes entered by amendment include performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients.

The reference Jacobs does not explicitly describe that limitation and the current combination of Jacobs with other references does not make such a limitation obvious compared to the prior art of record for the whole structure and interaction expressed by the combination of all limitations. Accordingly, the rejections are removed. The Applicant's assertions with respect to Jacobs have been considered, but they are moot in view of the new claim element. Please see new grounds of rejection applied to address the new claim element: performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients.

32. With respect to rejection of claims 5-6, 14, 17-19, and 20-25 under *35 USC § 102* and *§ 103*, citing Jacobs alone and in combination, the Applicant's arguments appear to be as follows:

a. The Applicant's argument appears to be either that Jacobs threshold is not a target quality parameter or that the quality that the threshold indicates is not acceptable . This argument is not persuasive because Jacobs provides the threshold as a goal (parameter) to be exceeded or not exceeded (target) that provides an indication to ensure quality (quality). This argument is not persuasive because quality is inherently acceptable when any criterion is applied that indicates the quality's acceptability. Here, the quality that Jacobs ensures is inherently acceptable because Jacobs leaves unchanged the bit rate that produced the quality, and the quality was measured to determine if the bit rate should be changed. Therefore, Jacobs quality is acceptable on the criterion of unchanged bit rate.

b. The Applicant's argument appears to be that changing Chiang '846's constant capacity controls to provide variable rate coding such as Jacobs' encoding changes the principle of operation of Chiang '846. Similarly, changing Jacobs' variable rate coding to Chiang '846's controls for constant capacity encoding changes the principle of operation of Jacobs.

Regarding claims 5-6, because a quality control quantization loop and bit-count control quantization loop de-linked and different adjustment rules in the quality control quantization loop and the bit-count control quantization loop makes neither of those changes. Chiang '846's quality control quantization loop and bit-count control quantization loop de-linked and different adjustment rules in the quality control quantization loop and the bit-count control quantization loop merely provide rate control criteria for transmission of whatever data an encoder has prepared to be transmitted.

Regarding claim 18, this argument is not persuasive because using the entropy encoding that Chiang '846 describes makes neither of those changes. Chiang '846's

entropy encoding merely provides data suitable for transmission of whatever data an encoder has prepared to be transmitted.

c. The Applicant's argument appears to be that changing Chiang '497's spectral analysis of video to Jacobs' CELP analysis of speech would change the principle of operation of Chiang '497. Similarly, changing Jacobs' CELP analysis of speech to Chiang '497's spectral analysis of video would change the principle of operation of Jacobs. This argument is not persuasive because using average bit count for rate control bounds, buffer fullness, and buffer sweet spot that Chiang '497 describes makes neither of those changes. Chiang '497's average bit count for rate control bounds, buffer fullness, and buffer sweet spot merely provides rate control criteria for transmission of whatever data an encoder has prepared to be transmitted.

The Applicant's arguments have been fully considered but they are not persuasive. Accordingly, the rejections are maintained.

33. With respect to rejection of claims 15-16 under *35 USC § 102*, citing Jacobs alone, the changes entered by amendment include performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients. .

The reference Jacobs does not explicitly describe that limitation. Accordingly, the rejections are removed. The Applicant's assertions with respect to Jacobs have been considered, but they are moot in view of the new claim element. Please see new grounds of rejection applied to address the new claim element: performing a frequency transform on plural time domain audio samples to produce a block of frequency coefficients.

***Conclusion***

34. The following references here made of record are considered pertinent to applicant's disclosure:

Crossman et al. [US Patent 5317672] describes reducnig the bandwidth allocated to audio and changing th quantization step size while achieving an allowable distortion.

Chen et al. [US Patent 6,810,083] evaluates the quality of encoded data by decoding and analyzign the decoded data for the variance, average error , and peak SNR.

35. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

36. Any response to this action should be mailed to:

**Mail Stop AF**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**or faxed to:**

(571) 273-8300, (please mark "EXPEDITED PROCEDURE"; for formal communications and for informal or draft communications, additionally marked "PROPOSED" or "DRAFT")

Patent Correspondence delivered by hand or delivery services, other than the USPS, should be addressed as follows and brought to U.S. Patent and Trademark Office, Customer Service Window, **Mail Stop AF**, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 8:00 AM and 4:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see http://pair-direct.uspto.gov.

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER

Donald L. Storm
Donald L. Storm
August 23, 2005